

Utilizing Artificial Intelligence to Enhance English Learning at Muhammadiyah Luwuk University: Potentials and Challenges

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Abstract:

Artificial Intelligence, as a part of information technology, is now playing a key role in education. This aligns with the rapid advancement of technology and the goal of developing 21st-century skills that students will need in the future. Therefore, the urgency of this research is underscored by its alignment with the 4th Sustainable Development Goal (SDG), which aims to ensure inclusive, equitable, and quality education while promoting lifelong learning opportunities for all. This study aims to explore the extent of AI technology usage by students in the English learning process at the University of Muhammadiyah Luwuk. This study employs a mixed-methods approach, which involves rigorously studying social and behavioral issues by collecting and analyzing qualitative and quantitative data. The study's findings indicate that most respondents, specifically English education students, are familiar with using AI and frequently incorporate it into their daily lives and learning processes. The AI platforms commonly used by respondents include Perplexity, Turnitin, ChatGPT, Grammarly, Quillbot, Mendeley, and Gamma. Notably, 70% of students positively perceive AI, believing it enhances creativity and innovation. However, 30% of students hold the opposite view. Artificial intelligence technology has the potential to provide both benefits and harm. Therefore, integrating technology into education requires a wise approach to offer maximum benefits without sacrificing students' skills, creativity, and critical thinking development.

Keywords: AI Usage, English Learning, Perception, Potential, Challenges.

Introduction

In the current era of globalization, the growing demand for English proficiency emphasizes the importance of acquiring effective language and communication skills (Rusmiyanto et al., 2023). With technological advancements reshaping education, Artificial Intelligence has become a promising tool for enhancing learning processes, including language education (Mukhallafi, 2020). The use of Artificial Intelligence (AI) in the context of education is increasingly inevitable. However, it remains a hot topic of discussion and raises both pros and cons. On one hand, the presence of AI is considered a positive development that supports learning, but on the other hand, the use of AI technology in the learning process, especially in writing scientific papers, has led to high levels of plagiarism and a decline in students' skill development, particularly in creativity and critical thinking. This highlights that, behind the sophistication of AI and its various benefits, there are significant challenges that need to be addressed to find appropriate solutions.

Artificial Intelligence, as a part of information technology, is now playing a key role in the field of education. The implementation of AI-based technologies in college English instruction has introduced both challenges and opportunities. Educators need to adjust their teaching strategies to harness the potential of these new tools while addressing the obstacles they bring. The integration of AI-driven language services, such as natural language processing, translation, and transfer, offers smarter and more personalized support for language learning (Y. Zhang, 2021). AI has emerged as a new technology that can enhance the teaching and learning experience. Specifically, in English language learning, AI is utilized to assist students and lecturers in higher education in addressing various challenges and achieving diverse goals. This aligns with the rapid advancement of technology and the goal of developing 21st-century skills that students will need in the future. The 4th Sustainable Development Goal (SDG), which seeks to guarantee accessible, equitable, and high-quality education while encouraging possibilities for lifelong learning for everyone, thereby emphasizes the necessity of this research.

Today, the world of education has undergone a transformation from conventional methods to ICT-based distance education or e-learning. Since the pandemic, higher education institutions have continued to strive to encourage the teaching and learning process to utilize technology. Artificial Intelligence, as part of information technology, plays an important role and has a significant impact on various sectors of life, especially in the field of education. One of the roles of AI in education is to serve as a medium that ensures learning can be carried out properly and optimally (Putri & Hasan, 2022). Technology is used to provide convenience in various areas, including the learning process. The presence of artificial intelligence, or AI, is evidence that various innovations have been made. AI is frequently used to support learning activities both in schools and for independent learning (self-learning). AI can also be used to present learning materials, conduct assessments, and provide learning feedback. Furthermore, incorporating AI tools like chatbot and virtual assistants can create interactive learning experiences, improve oral communication skills, and provide students with immediate feedback (K. Zhang & Aslan, 2021). In order to provide students with a positive learning experience and well-prepared resources, educators have produced models, methods, media, and assessments that are used in classroom learning activities.

Literature Review

The study of the application of artificial intelligence (AI) in education has become a hot topic of research and is increasingly popular (Fauziyanti, 2024). One example is the article titled "Proposed Artificial Intelligence Algorithm and Deep Learning Techniques for the Development of Higher Education," which discusses a model of AI application in higher education aimed at improving students' cognitive abilities (Al Ka'Bi, 2023). Furthermore, the use of various types of AI by students and academics serves multiple purposes, including creating scientific works such as articles, papers, theses, reports, working papers, and so on (Anwar et al., 2021). In the context of writing scientific papers, AI can help identify research issue trends, analyze data, check grammar, spelling, and writing formats according to scientific standards (KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, 2024).

Students gain skills that are applicable to the digital age when AI is used in the classroom. Understanding artificial intelligence (AI) and being able to communicate with technology are becoming more and more crucial in a world where technology rules. By incorporating AI technology into their lessons, educators may assist pupils get acquainted with and prepared for the opportunities and difficulties of the digital age (David, 2020).

Recently, Artificial Intelligence (AI) has become very popular among the public, as well as among students and lecturers. The discovery of advanced technologies such as ChatGPT, Quillbot, Grammarly, Turnitin,

and others in recent years has triggered significant changes in English teaching and learning (Jaya et al., 2019). Every people have the opportunity to integrate Artificial Intelligence into learning because AI offers many advantages. For example, AI-powered applications can help students learn languages, practice speaking daily, and motivate them to learn. This, of course, creates opportunities and challenges for students in the process of learning English in higher education, especially at University of Muhammadiyah Luwuk.

Based on initial studies, lecturers and students at University of Muhammadiyah Luwuk have integrated Artificial Intelligence into learning, such as asking and solving difficult questions (ChatGPT), checking grammatical errors (Grammarly), checking plagiarism (Turnitin), paraphrasing (Quillbot), and reviewing literature (Mendeley). The use of various types of AI serves multiple purposes for both students and academics, including creating scientific works such as articles, papers, theses, reports, working papers, and more. Therefore, exploring the use of AI in English learning is essential to uncover new opportunities and challenges in education.

Based on preliminary studies, English education students at the University of Muhammadiyah Luwuk who are working on their final projects have integrated AI into writing scientific papers (both theses and articles), including; checking grammatical errors using Grammarly, checking plagiarism with Turnitin, paraphrasing with Quillbot, reviewing literature with Mendeley and so on. With the help of AI, students are expected to be able to improve the quality and effectiveness of the scientific papers they write, including the publication of scientific articles so that they can contribute to the development of science and education (Patty et al., 2023). However, on the other hand, the negative impacts that arise with the widespread use of AI among students have triggered an increase in cases of plagiarism and violations of academic ethics. The ease of accessing and copying other people's work and the tendency to use AI excessively can reduce critical thinking skills, inability to complete tasks independently, inability to think of creative solutions and even cause dependency (Lukman et al., 2024). This risks inhibiting the development of skills and potential possessed by students. Like a motorbike without brakes, if it runs very fast it will harm many parties. This statement is in line with the results of research (K. Zhang & Aslan, 2021) that there is a critical gap between what AI technology does and how it is implemented in an authentic educational environment.

The gap in this research with relevant research lies in the lack of studies that specifically examine the impact of AI usage on the development of critical thinking and creativity skills among students, particularly in the context of higher education. Most previous research has focused more on the potential of AI technology to enhance learning effectiveness or merely discussed the tools used without exploring their impact in depth on essential student skills (Zang et al., 2022). This research aims to fill that gap by providing a more comprehensive analysis of how AI affects students' academic behavior, including the potential ethical challenges faced by educators and students.

Methodology

This research adopted a mixed methods approach, which combines quantitative and qualitative methods. In this approach, quantitative data (lecturers' and students' perceptions of the use of AI in the English language learning process) are collected and analyzed, followed by qualitative analysis of interviews. This method uses two instruments: a questionnaire survey and in-depth interviews to explore the potential and challenges faced by both students and lecturers in utilizing AI in learning. The subjects of this study are students and lecturers from the English Language Education program at University of Muhammadiyah Luwuk. The research design using the mixed methods approach is illustrated in the chart below.

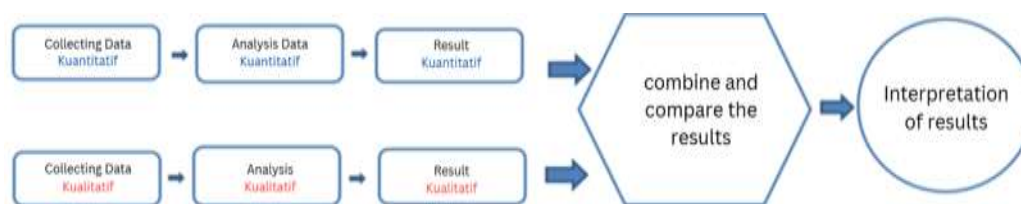


Figure1. Research design using the mixed methods approach

This study uses methodological triangulation or mixed methods, which combine quantitative and qualitative approaches. Data triangulation is conducted to gain a more comprehensive understanding of the phenomena studied and to ensure the validity and reliability of the findings. Two instruments are used to analyze the data. The main data analysis method employed in this study is descriptive statistics for each question. For quantitative data, the instrument used is a survey in the form of a questionnaire administered through the Google Form application, which is then collected and analyzed quantitatively using a Likert scale. The results of the analysis are then presented in the form of a frequency table. For qualitative data, deep interviews are conducted with a number of respondents. This qualitative data is analyzed using the Miles & Huberman model, which involves reducing data, displaying data, and drawing conclusions.

Result

After all respondents had finished the teaching and learning process, this research activity was conducted at the end of the odd semester of 2023–2024. A total of 232 respondents, both male and female students, were selected at random from six classes scattered over the English education study program from the first semester to the eighth semester. The numerous advantages AI offers in the educational setting open up new avenues for educational advancement. The following are the results about the possibilities and difficulties associated with the application of artificial intelligence (AI) in the University of Muhammadiyah Luwuk's educational process:

Personalized Learning

AI's capacity to tailor education is one of its main advantages. AI is capable of analyzing student data and identifying each person's unique learning needs, preferences, and styles. AI can use this data to create learning materials that are specific to the requirements and preferences of each student. AI can change the delivery style, teaching strategies, and degree of difficulty to give students a more interesting and relevant learning environment. Students can become more motivated, learn more quickly, and perform better when their education is personalized.

In addition to personalized learning, AI offers significant potential to transform traditional educational practices by enabling adaptive learning systems that continuously adjust to a student's progress. For example, AI-powered platforms can monitor a student's responses to quizzes and assignments, identify areas of weakness, and provide targeted feedback or additional practice in those areas. This ensures that students do not merely move forward with gaps in their understanding but are guided toward mastery of the subject matter. Moreover, AI can introduce varied instructional formats, such as videos, interactive simulations, or gamified lessons, to align with the diverse preferences of learners, making the process more dynamic and less monotonous.

AI can also assist educators by automating routine tasks like grading and administrative work, freeing up valuable time for teachers to focus on mentoring and personalized interactions with their students. With the integration of natural language processing (NLP), AI-powered tools can even provide detailed and

constructive feedback on student essays, helping learners improve their writing and critical thinking skills. Furthermore, AI's ability to analyze large datasets allows teachers to gain deeper insights into classroom dynamics, identifying trends, predicting potential challenges, and making data-driven decisions to enhance the learning environment. Beyond individual classrooms, AI facilitates global access to quality education by powering online learning platforms that break down geographical and economic barriers. These platforms can offer personalized recommendations for courses, track a learner's journey across various subjects, and adapt to their pace of learning. This democratization of education enables learners from underserved communities to access high-quality resources that were previously out of reach. Additionally, AI can translate content into multiple languages, fostering inclusivity and making educational materials accessible to a broader audience worldwide.

However, the growing reliance on AI in education also raises important ethical and practical considerations. Data privacy is a significant concern, as personalized learning relies on collecting and analyzing large amounts of sensitive student data. Ensuring the security of this data and maintaining compliance with privacy laws is crucial to protect students' rights. Moreover, there is a risk of over-reliance on AI, which may inadvertently diminish the role of critical human interactions in the learning process. Educators play an irreplaceable role in fostering emotional intelligence, empathy, and collaborative skills—qualities that AI cannot replicate.

To strike a balance, it is essential to view AI as a complement to, rather than a replacement for, human educators. While AI can handle repetitive tasks, personalize content, and provide data-driven insights, teachers bring the human connection and contextual understanding that are vital for holistic education. By integrating AI thoughtfully and ethically, schools and institutions can create a blended learning environment that leverages the best of both technology and human expertise.

Effective Feedback

A key component of raising student comprehension is providing constructive criticism. AI is able to give pupils timely, thorough, and pertinent feedback. AI can detect learning errors or deficiencies by evaluating student performance in real time. AI can offer pertinent justifications, recommendations for enhancements, or extra assignments that meet the goals of the learner. Students can swiftly and efficiently strengthen their areas of weakness with the help of this rapid and focused feedback. Additionally, by offering adaptive and personalized feedback based on each student's progress, AI integration in education can greatly improve the learning process. Unlike traditional methods, where feedback may be delayed or generalized, AI can deliver real-time responses based on individual performance. This allows students to receive immediate clarification on any misunderstandings or errors, promoting a continuous learning cycle.

AI systems can track student behavior and patterns, such as the time spent on a particular task, the accuracy of their responses, and their engagement levels, enabling them to deliver feedback that is not only specific but also data-driven. Moreover, AI can adapt its responses over time, learning from each student's unique learning style, preferences, and pace. For example, if a student repeatedly struggles with a particular concept, the AI system can offer alternative explanations or resources, such as videos, examples, or practice exercises, to ensure the student grasps the material. This personalized approach helps to bridge learning gaps, ensuring that no student is left behind. Additionally, AI-driven feedback can empower students to take ownership of their learning. With continuous feedback, students can track their progress, set realistic goals, and feel motivated to improve. This sense of control and self-awareness can be especially beneficial in developing self-regulated learning skills. While AI cannot replace the nuanced understanding and emotional support that a teacher provides, it can serve as an invaluable tool for supplementing traditional

teaching methods. It can reduce the burden on educators by automating routine tasks such as grading and providing feedback, allowing teachers to focus more on student interaction, mentoring, and deeper instructional strategies. In this way, AI complements the work of educators and helps create a more efficient, dynamic, and student-centered learning environment. However, it is essential to maintain a balance between the use of AI and human intervention to ensure that feedback remains holistic and empathetic.

Improving Teaching Effectiveness

From the lecturer's perspective, the use of AI in the learning process can improve the overall effectiveness of teaching. AI has changed how students study and given them access to additional learning resources (Yong, 2020). By analyzing student data, AI can help lecturers identify learning patterns, recognize individual student needs, and adjust teaching methods more efficiently. Lecturers can use the insights provided by AI to optimize teaching strategies, choose the most effective learning methods, and adjust their approaches according to student needs. Additionally, AI can provide advice and recommendations to lecturers on relevant learning materials, effective teaching techniques, or interactive approaches that can improve student learning outcomes.

Furthermore, AI can enhance teaching effectiveness by automating routine administrative tasks, allowing lecturers to focus more on interactive teaching and student engagement. For example, AI-powered tools can handle grading, track students' progress, and identify areas where students may be struggling, enabling lecturers to provide more targeted interventions. By automating these tasks, AI frees up valuable time for lecturers to engage in more personalized one-on-one interactions with students, fostering a deeper connection and understanding. This personalized attention can greatly contribute to students' motivation and learning outcomes, as they feel more supported and understood in their learning journey.

AI can also play a pivotal role in creating adaptive learning environments that cater to different learning styles and paces. By analyzing data on how students interact with course materials, AI can provide tailored recommendations or adjust the difficulty level of content based on individual student performance. This adaptability ensures that each student is challenged appropriately while also preventing frustration or boredom. Additionally, AI-based tools can offer real-time feedback to students, allowing them to learn from their mistakes and continuously improve. This instant feedback loop enhances the learning process and encourages students to take an active role in their education.

Moreover, AI can facilitate collaborative learning among students. AI-powered platforms can create virtual study groups, matching students with similar learning needs or interests, fostering peer-to-peer learning and knowledge sharing. Collaborative learning not only improves the retention of knowledge but also encourages critical thinking, problem-solving, and communication skills, all of which are crucial for success in the modern workforce. In essence, AI has the potential to revolutionize the way lecturers teach, making the learning process more efficient, personalized, and engaging for students. By integrating AI into the classroom, lecturers can enhance their teaching effectiveness, create a more dynamic learning environment, and ultimately improve student outcomes in ways that were previously unimaginable.

Challenges And Bias

On the other hand, there is potential bias in the use of Artificial Intelligence (AI) in education. This is evident as students tend to rely on AI to shorten research time by completing tasks intensively, which may lead to a lack of critical and rational thinking. AI also poses a threat to human resources as the roles of humans are increasingly replaced by robots. However, the integration of AI in the learning process is not without its challenges and potential biases. One of the key challenges faced by lecturers is the reliance on

AI-driven data to guide teaching strategies. While AI can analyze large volumes of student data, it may not always fully capture the complexity of individual learning experiences or the nuances of students' emotional and social development. For example, AI algorithms may struggle to account for cultural differences, language barriers, or varying levels of prior knowledge, leading to generalized conclusions that may not reflect the true needs of every student. Moreover, there is a concern that AI could inadvertently reinforce existing biases, especially if the data used to train AI systems is skewed or incomplete. If AI systems are trained on historical data that reflects systemic inequalities or biases in education, they may perpetuate these biases in their recommendations and decision-making processes, further disadvantaging certain student groups.

Another concern is the over-reliance on AI, where lecturers may become overly dependent on automated tools for decision-making and teaching, potentially leading to a reduction in personal interaction with students. This could result in a more transactional approach to teaching, where students are treated as data points rather than individuals with unique learning needs. Additionally, AI may not always be able to replicate the emotional intelligence, empathy, and adaptability that human lecturers bring to the classroom. These qualities are essential for fostering a supportive and inclusive learning environment, something that AI is not yet equipped to fully understand or implement. Finally, the rapid pace of AI development poses another challenge for lecturers, who may struggle to keep up with the latest technologies and how to best integrate them into their teaching practices. To address these challenges, it is essential for lecturers to maintain a balanced approach, combining AI-driven insights with their own professional judgment and expertise to ensure that student needs are met in a holistic and inclusive manner.

Risks And Limitations

Although Artificial Intelligence (AI) technology currently offers many significant advantages; it does not guarantee a risk-free application. The biggest risk is data security. If not used wisely or if exploited for unethical purposes, AI can threaten the well-being of many people. In the future, the development of AI technology will continue to advance and experience significant growth. However, AI technology cannot replace the role of humans entirely, as it lacks the ability to replicate emotional aspects essential to human interactions.

While AI offers transformative benefits across various fields, it also introduces notable risks and limitations that cannot be overlooked. One major concern is the ethical implications of AI applications. As AI becomes more integrated into our lives, issues such as bias in algorithms, privacy violations, and accountability will need to be addressed. AI systems rely heavily on large datasets to function effectively, but these datasets can often contain biases or reflect discriminatory patterns that, when amplified by AI, can lead to unintended consequences. Moreover, as AI systems are increasingly used in decision-making processes—whether in hiring, law enforcement, or healthcare—there is a growing concern about the lack of transparency in how AI makes decisions, which can lead to unfair or biased outcomes.

The absence of human judgment in these processes further complicates the ability to question or contest AI's decisions, raising ethical dilemmas about accountability and justice. Another limitation of AI is its inability to fully comprehend and replicate human emotions and social dynamics. While AI can simulate conversations and provide responses based on patterns, it does not possess empathy, intuition, or the emotional intelligence that humans inherently possess. This limitation is particularly evident in fields such as mental health, customer service, and education, where human interaction is vital to understanding emotions, context, and nuances in communication. AI may be able to offer support in these areas, but it cannot replace the depth of human connection that fosters trust, understanding, and emotional well-being.

Additionally, AI's reliance on data to function means that it is only as good as the data it is trained on. Incomplete or incorrect data can lead to inaccuracies, and as AI systems continue to grow more complex, it becomes increasingly difficult to ensure their reliability. Lastly, there is a concern about job displacement. While AI may create new opportunities, it can also render certain jobs obsolete, particularly in industries that rely on routine tasks or manual labor. This shift can create economic challenges and societal imbalances, particularly for individuals whose skills may not easily translate into AI-driven industries. Thus, the development of AI requires careful regulation and an ethical framework to ensure it is used responsibly and equitably. In this study, the researcher focuses on discussing the learning process of English Education students at the University of Muhammadiyah Luwuk. The results of the questionnaire survey revealed that most education students have a positive perception of AI.

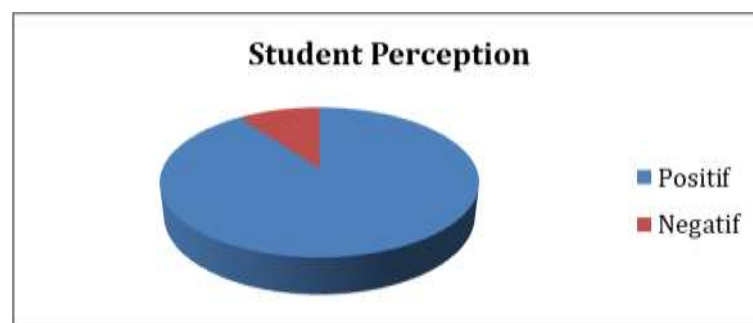


Figure 2. Students' Perception

Furthermore, 85% of students are familiar with Artificial Intelligence (AI), understand what it is, and use AI in the learning process, while the remaining 15% indicated that they are not familiar with Artificial Intelligence (AI).

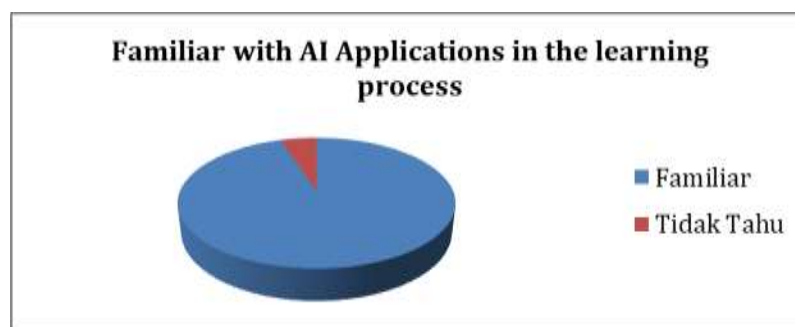


Figure 3. Familiar with AI Application

They admitted to frequently using Artificial Intelligence (AI) as a medium to help complete college assignments, but some respondents stated that they had never used Artificial Intelligence (AI) for their assignments. Furthermore, the platforms often used by English language education students in their daily lives, particularly in the learning process, are ChatGPT and Grammarly. Based on the survey, 45% of respondents reported that they often used ChatGPT in the learning process because it provided time-efficient assistance with their work. However, respondents noted certain biased benefits, as using ChatGPT often resulted in paraphrased AI-generated language that is less understandable to humans. The impact of this bias, as reported by most students, is an increased dependence on AI technology, which is perceived as a quick and easy way to obtain data that is sometimes inaccurate or unreliable. This dependence weakens

students' potential abilities, including critical and creative thinking. On the positive side, ChatGPT can also support distance learning, which is particularly useful for students who cannot attend classes due to health problems

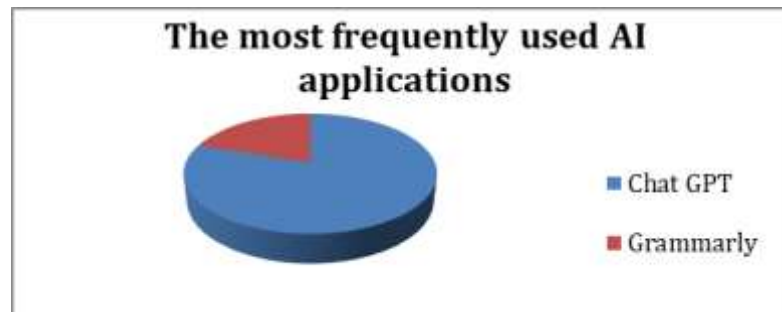


Figure 3. The most frequently used AI

Furthermore, 45% of respondents admitted that they often use Grammarly as a tool in the student learning process, while the remaining 55% use other applications for several reasons. In writing courses, for example, students use Grammarly to improve their writing skills because writing requires not only knowledge but also skills in organizing ideas. With this application, students can immediately correct incorrect writing and grammar. Grammarly itself is an automatic proofreading system that can identify errors related to more than 250 grammar rules and provide solutions to improve the writing that has been made. Thus, Grammarly, as a free online writing assistant, makes it very easy for students to revise incorrect writing. The rapid advancement of technology has transformed how students engage in discussions. They often rely on AI to obtain materials without cross-referencing other websites, simply by typing prompts to retrieve the desired information. Additionally, the discussion process has become quicker due to AI assistance. Researchers, however, are concerned about the potential decline in students' higher-order thinking skills and analytical processes. On the other hand, this approach could also serve as a stimulus for fostering analytical thinking.

According to the findings of the aforementioned study, artificial intelligence (AI) holds promise for helping children with learning difficulties reach their greatest potential. Because artificial intelligence (AI) technology can assist create a joyful and comfortable learning environment, thereby raising self-confidence and reducing anxiety in learning, it can help students' emotional fields develop self-confidence in learning results. But in addition to the advantages of AI, there are risks or difficulties associated with its application. It's possible that pupils won't always gain from this human artificial intelligence technology. Therefore, as students who are aware of technological advances, we should be careful about all forms and efforts to access personal data and privacy through the Artificial Intelligence (AI) platform, because the use of these Artificial Intelligence (AI) platforms is very vulnerable to data breaches and personal privacy.

Discussion

According to the study's findings, most students especially those enrolled in the English Education program have learned about artificial intelligence (AI) technology and have integrated it into their coursework. This demonstrates how students are beginning to embrace digital technology as a teaching tool to get better at English. AI platforms including Perplexity, Turnitin, ChatGPT, Grammarly, QuillBot, Mendeley, and Gamma are among the most widely utilized, however students' requirements and preferences differ. As a result, research findings from additional studies demonstrated that artificial intelligence facilitates non-

native English speakers' acquisition of the language in accordance with their requirements and preferences (Almutairi et al., 2020).

There are several advantages to learning English using AI, particularly in terms of creativity and innovation. Up to 70% of students claim that using technology improves their ability to finish assignments, come up with fresh ideas, and find more knowledge. For instance, Grammarly and QuillBot assist in enhancing writing style and grammar, while ChatGPT and Perplexity are interactive and comprehensive tools for answering queries. Artificial intelligence has been shown in earlier research to improve students' motivation to learn and their interaction with course materials. According to the results of multiple studies, artificial intelligence (AI) has the potential to greatly enhance the communication abilities of English language learners by offering individualized and engaging educational experiences (Rusmiyanto et al., 2023) & (Zhao & Yang, 2021). Moreover, AI has the ability to improve education by providing more individualized learning opportunities (Rashmi, 2023).

The fact that 30% of students hold an unfavorable attitude of AI, however, shows that people are still worried about its drawbacks, which include a reliance on technology, a decline in natural creativity, and the possibility of plagiarism. Inappropriate usage of technology can impair pupils' capacity for autonomous and critical thought. As a result, this matter needs to be treated carefully. For instance, students may become unduly dependent on Turnitin and Grammarly without trying to develop their foundational knowledge if they utilize these tools without properly comprehending them.

These findings suggest that a prudent strategy is needed for the integration of AI technology in education. Universities can take an active role by instructing their students on the ethical and efficient use of AI, especially Muhammadiyah University of Luwuk. Additionally, educators ought to support the use of AI as an adjunct to traditional education rather than as a substitute. Students can thus take full use of AI without sacrificing their analytical, creative, or critical thinking abilities. SDG 4 states that the objective of sustainable education necessitates the targeted application of AI. By guaranteeing that every student has equitable access to this technology, schools can establish a learning environment that is inclusive, high-quality, and sustainable.

Conclusion

Artificial Intelligence (AI) technology provides many benefits for students in productivity, learning, organizational management, and remote work, helping to complete assignments, and reducing costs while increasing student consistency in learning. In the learning process and during lecture activities, students use artificial intelligence as a tool to meet their needs. Based on the results of the study, data revealed that English language education students use this intelligence tool to make their work easier and save time, for example, ChatGPT, Grammarly, and Perplexity. However, on the other hand, this artificial intelligence technology presents its own challenges or threats for students. In addition to having the potential to reduce critical thinking and creativity, the use of these Artificial Intelligence (AI) platforms is very vulnerable to data breaches and personal privacy.

With the results of this study, it is hoped that students can use AI wisely while also making students and all AI users aware that whenever there is convenience and technological progress, problems will inevitably arise. Therefore, it is important for all students to continue balancing the use of AI by prioritizing critical thinking skills and creativity.

This is a challenge for students today to protect themselves from the excessive use of AI technology. The right solution is to utilize AI technology positively, increasing time efficiency for completing various tasks

such as scientific papers, proposals, theses, articles, and others while still balancing this with efforts to develop critical thinking skills, practical skills, and creativity. The function of AI is only a complement, not a replacement.

This conclusion provides an overview that Artificial Intelligence (AI) technology is essentially similar to other tools or media, having the potential to provide both benefits and harm. Therefore, the integration of technology in education requires a wise approach to provide maximum benefits without sacrificing the development of skills, creativity, and critical thinking among students.

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